THE VARIATION OF METEOROLOGICAL ELEMENTS AT ST. HELENA AND AT SOME OTHER PLACES IN THE ATLANTIC REGION[1]

[Author's abstract]

It is shown that since 1892 pressure, wind velocity, and temperature (mean daily maximum and minimum) at St. Helena have been subject to marked secular variations, pressure, and maximum temperature rising, while since 1903 wind velocity has decreased. These variations are interrelated in such a way that they are probably real and not instrumental, and it is shown that the most likely explanation is the gradual northward movement of the South Atlantic anticyclone. The variations are further examined by the calculation of "partial" correlation coefficients. The investigation is then extended to the North Atlantic; in Sierra Leone pressure has increased slowly while temperature has decreased slowly and rainfall has decreased by an average of 2.4 inches a year. These variations also are investigated by "partial" correlation. In the Azores and Madeira pressure has increased more rapidly than in Sierra Leone, and it is shown that the variations are probably accounted for by an increase in the intensity of the North Atlantic anticyclone and in the strength of the northeast trade wind. Various meteorological changes in Europe, North America, and the Arctic, which may be related to the above variations, are also discussed.—*C. E. P. Brooks.*

THE DISTRIBUTION OF ARCTIC ICE

[Reprinted from Nature, April 23, 1927]

The Danish Meteorological Office has published its report on "The State of Ice in Arctic Seas, 1926." Conditions in nearly all Arctic seas were unusually favorable. In the Barents Sea the distribution was about normal, but in August open water reached almost to Franz Josef Land. Eastern Spitzbergen, however, does not appear to have been free from ice, but the west coast was entirely clear during the summer months. The Kara Sea was congested in the south, but vessels got through by using Matochkin Strait. In the Greenland sea and Denmark Strait conditions were very favorable, and the east coast of Greenland was relatively easy of access. The coasts of Iceland were open throughout the year. On the Newfoundland Banks the amount of ice was below the normal. Ports on the west coast of Greenland were more accessible than usual, and in Hudson Strait there was less ice than has been noted during the past six years.

Bering Sea was open so early as the end of June, and there were long stretches of open water along the coasts of Siberia and Alaska during the summer. This is at least the fourth year in which ice conditions generally have been subnormal and in which no exceptional drift has been reported from any part of Arctic Seas.

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THE SECOND EDITION OF DEFANT'S "WETTER UND WETTERVORHERSAGE"

In the more than eight years since the author brought out the first edition, the forward strides of meteorology have been so vigorous that much of the book, especially the first part, "Das Wetter," was rapidly becoming obsolete. In the second (1926) edition (issued by Franz Deuticke, Leipsig and Vienna), the student will recognize the profound influence which the Bjerknes school has exerted upon meteorological thought in Europe. One finds extensive revision, retaining, however, a careful liaison between the older ideas and the newer. A fine feature of the book is the abundance of small but very clear diagrams and charts; especially pleasing are the synoptic charts on blue bases. A wealth of footnote references to literature takes the place of loading the text with a discussion of researches which seem to the author to be of subordinate importance.—*B. M. V.*

METEOROLOGICAL SUMMARY FOR SOUTHERN SOUTH AMERICA, MARCH, 1927

By J. B. NAVARRETE, Director

[Observatorio del Salto, Santiago, Chile]

The month of March, 1927, was characterized by a weak atmospheric circulation in the southern region. The first five days were in general dry, while in the second five days a preceptible increase in rainfall was observed.

The most important depressions which crossed the far south were as follows:

That of the 3d–4th, which caused rain as far north as Arauco. The heaviest precipitations were those of 53 mm. at Puerto Montt and 37 mm. at Valdivia.

That of the 20th–21st; it rained as far north as Arauco. The heaviest rainfalls were 22 mm. at Puerto and 14 mm. at Valdivia.

That of the 27th–29th which caused heavy winds and rainfall over the greater part of the southern region. Maxima were 41 mm. at Puerto Montt, and 26 mm. at Valdivia.

The most important anticyclonic centers were as follows: That of the 5th to 18th, which was notable for its prolonged stability; those of the 22d–26th, and of the 30th–31st. All these periods were characterized by generally fine and cool weather.—*Transl. B. M. V.*

METEOROLOGICAL SUMMARY FOR BRAZIL, MARCH, 1927

By J. DE SAMPAIO FERRAZ, Director

[Directoria de Meteorologia, Rio de Janeiro]

As observed in daily charts, the general circulation at lower levels was a little more active this month. Five anticyclones crossed the continent in the usual paths. Depressions were generally shallow and not persistent, affecting very little the central region of the country. In the south, contrasts of pressure were more frequent. The highs referred to above were not vigorous. Rain distribution was very irregular in the north and central regions of Brazil, and on the average below normal; in the southern part precipitations were much more abundant, with an average well above normal.

Weather was generally favorable to crops, especially to cotton, coffee, and sugar.

[1] Geophysical Memoirs No. 33—Air Ministry, Meteorological Office, Vol. IV, No. 3

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